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FEE TRANSMITTAL for FY 2008

Effective 2/[illegible]006. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 510

Complete If Known	
Application Number	10/775,881
Filing Date	February 10, 2004
First Named Inventor	Luc Lemmens, et al.
Examiner Name	Christopher P. Schwartz
Art Unit	3683
Attorney Docket No.	1316N-001663

METHOD OF PAYMENT *(check all that apply)*

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 08-0750

Deposit Account Name: Harness, Dickey & Pierce, P.L.C.

The Director is authorized to: *(check all that apply)*
☐ Charge fee(s) indicated below ☐ Credit any overpayments
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☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1011	310	2011	155	Utility filing fee	
1012	210	2012	105	Design filing fee	
1013	210	2013	105	Plant filing fee	
1014	310	2014	155	Reissue filing fee	
1005	210	2005	105	Provisional filing fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

			Extra Claims		Fee from below		Fee Paid
Total Claims		- ** =	0	X		=	0
Independent Claims		- ** =	0	X		=	0
Multiple Dependent						=	0

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	50	2202	25	Claims in excess of 20
1201	210	2201	105	Independent claims in excess of 3
1203	370	2203	185	Multiple dependent claim, if not paid
1204	210	2204	105	** Reissue independent claims over original patent
1205	50	2205	25	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0

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or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	120	2251	60	Extension for reply within first month	
1252	460	2252	230	Extension for reply within second month	
1253	1,050	2253	525	Extension for reply within third month	
1254	1,640	2254	820	Extension for reply within fourth month	
1255	2,230	2255	1,115	Extension for reply within fifth month	
1401	510	2401	255	Notice of Appeal	
1402	510	2402	255	Filing a brief in support of an appeal	510
1403	1,030	2403	515	Request for oral hearing	
1452	510	2452	255	Petition to revive – unavoidable	
1453	1,540	2453	770	Petition to revive – unintentional	
1462	400	1462	400	Petition fee under 37 CFR 1.17(f)	
1463	200	1463	200	Petition fee under 37 CFR 1.17(g)	
1464	130	1464	130	Petition fee under 37 CFR 1.17(h)	
1807	50	1807	50	Processing fee under 37 CFR 1.17 (q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	810	2809	405	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	810	2810	405	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	810	2801	405	Request for Continued Examination (RCE)	
				Other fee (specify) ____	

*Reduced by Basic Filing Fee Paid **SUBTOTAL (3)** ($)510

4. SEARCH/EXAMINATION FEES

1111	510	2111	255	Utility Search Fee
1112	100	2112	50	Design Search Fee
1113	310	2113	155	Plant Search Fee
1114	510	2114	255	Reissue Search Fee
1311	210	2311	105	Utility Examination Fee
1312	130	2312	65	Design Examination Fee
1313	160	2313	80	Plant Examination Fee
1314	620	2314	310	Reissue Examination Fee

SUBTOTAL (4) ($)0

SUBMITTED BY

Complete (if applicable)

Name (Print/Type)	Michael J. Schmidt	*Registration No. (Attorney/Agent)*	34,007	*Telephone*	(248) 641-1600
Signature				*Date*	October 2, 2007

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PTO/SB/21 (04-07)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/775,881
Filing Date	February 10, 2004
First Named Inventor	Luc Lemmens, et al.
Art Unit	3683
Examiner Name	Christopher P. Schwartz
Total Number of Pages in This Submission	
Attorney Docket Number	1316N-001663

ENCLOSURES ***(check all that apply)***

- ☒ Fee Transmittal Form
  - ☒ Fee Attached
- ☐ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) ____
- ☐ After Allowance Communication to Technology Center (TC)
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☒ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below)*:
  Return Receipt Postcard

Remarks The Commissioner is hereby authorized to charge any additional fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 08-0750.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Harness, Dickey & Pierce, P.L.C.		
Signature			
Printed name	Michael J. Schmidt		
Date	October 2, 2007	Reg. No.	34,007

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Michael J. Schmidt	Express Mail Label No.	EM 061 813 771 US (10/2/2007)
Signature		Date	October 2, 2007

EM 061 813 771 US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Group Art Unit:	3683	
Examiner:	Christopher P. Schwartz	**APPEAL BRIEF**
Appellant:	Luc Lemmens, et al.	**Appeal No.**
Serial No.:	10/775,881	
Filed:	February 10, 2004	
For:	AIR PRESSURE PROPORTIONAL DAMPER FOR SHOCK ABSORBER	
Attorney Docket:	1316N-001663	

Michael J. Schmidt

For Appellants

APPELLANTS' APPEAL BRIEF

TABLE OF CONTENTS

Dear Sir:

This is an Appeal of the Objection to the Drawings under 37 C.F.R. 1.83(a); the rejection of Claims 1-6 under 35 U.S.C. § 112, first paragraph; and the rejection of Claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over Vermolen, et al. in view of de Molina.

REAL PARTY OF INTEREST

Tenneco Automotive Operating Company, Inc. is the real party of interest in the present application. Tenneco Automotive Operating Company, Inc. is the Assignee of the present application as recorded with the United States Patent and Trademark Office on February 10, 2004 on Reel 014984, Frame 0936.

RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge, no other appeals or interferences are pending which will directly affect or be directly affected by or have a bearing on the Board's decision in the present pending appeal.

STATUS OF THE CLAIMS

Claims 1-6 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enabling requirements.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Vermolen, et al. in view of de Molina.

These rejections as well as the objections to the drawings under 37 C.F.R. § 1.83(a) are the subject of the present appeal.

Claims 7-17 have been allowed.

STATUS OF THE AMENDMENTS

A Final Office Action was mailed on May 25, 2007.

Appellants filed a response to the Final Office Action on July 23, 2007 without amending the claims.

An Advisory Action was mailed on August 6, 2007 stating that our response was entered but it was not considered as placing the application in condition for allowance.

On August 14, 2007, Appellants filed a Notice of Appeal and Pre-Appeal Brief Review Request.

A Notice of Panel Decision from the Pre-Appeal Brief Review was mailed September 10, 2007 stating that there is at least one actual issue for appeal and the appeal would proceed to the Board of Patent Appeal and Interferences.

SUMMARY OF CLAIMED SUBJECT MATTER

Referring to Figures 2, 4 and 5, and to paragraphs [0017], [0018], [0031] and [0032], Claim 1 defines an air pressure proportional damper (10) having a container (40) having a first chamber (32) and a second chamber (38). A piston rod (26) is disposed in the first chamber (32). A piston (28) is attached to the piston rod (26) and is in sliding engagement with walls of the first chamber (32). A valve (22b) (Figures 4, 5) is disposed between the first chamber (32) and the second chamber (38) to regulate fluid flow between the first chamber (32) and the second chamber (38) through a first fluid passage (130) and a second fluid passage (between lower membrane (52b) and support 140), the second fluid passage being separate from the first fluid passage.

A membrane (52b) movable between a first position where the second fluid passage is open (when lower membrane (52b) is flexed) and a second position where the second fluid passage is closed (when lower membrane (52b) is pressed against support (140)) to prevent fluid flow from the second passage. The membrane (52b) defines the first fluid passage as an aperture 130 extending through the membrane to allow a specified amount of fluid flow between the first and second chamber through the first fluid passage when the membrane is in the second position.

A pressure signal is supplied from an air spring (12) (Figure 1) to the valve (22b). The valve (22b) regulates fluid flow from the first chamber to the second chamber proportional to the pressure signal.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellants present the following issues for review:

1) The drawings are objected to under 35 U.S.C. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second fluid passage, as now claimed, must be shown or the feature(s) cancelled from the claim(s).

2) Claims 1-6 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

3) Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Vermolen, et al. in view of de Molina.

ARGUMENT

Regarding the Examiner's objection to the drawings and the rejection under 35 U.S.C. § 112, first paragraph, Appellants believe these two issues are related and the withdrawal of the rejection under 35 U.S.C. § 112, first paragraph will also withdraw the objection to the drawings and thus, these two issues will be grouped together. Appellants respectfully traverse this rejection.

The Examiner's position as stated on pages 3 and 4 of his May 25, 2007 Final Office Action states that with regard to Figure 1 and the embodiment of Figure 4, the claimed embodiment, the specification never states that "when membrane 52b is in the closed or second position that it 'prevents fluid flow through the fluid passage' (the "passage" being identified as being 130 in the spec and drawings)."

Claim 1 defines the membrane (52b) as being moveable to "a second position where the second fluid passage is closed to prevent fluid flow through the second fluid passage." (Emphasis added) Claim 1 goes on to define "the first fluid passage as an aperture extending through the membrane". The aperture is a part of passage 130 illustrated in Figure 4 which is the first fluid passage defined by Claim 1 not the second fluid passage. The Examiner has mistakenly identified passage 130 as the second fluid passage where Claim 1 defines it as the first fluid passage.

As illustrated in Figure 4, there are two different arrows depicting fluid flow. The upper arrow through passage 130 is the first fluid passage defined by Claim 1 and the lower arrow extending between membrane 52b and support 140

is the second fluid passage defined by Claim 1. The Examiner agrees with this when on page 3 of the Office Action he states "Figure 4 shows via two arrows, the path of fluid flow when the 'lower membrane 52b' is in the 'closed' position, or is in the seated position on the land."

Paragraph [0031] describes the two fluid passages and the fluid flow. Passage 130 extends through two of bottom plates 128. Passage 130 allows a small amount of fluid to pass from bottom chamber 126 into a chamber 132 to be communicated out to outlet 116. As a result, during small and low flow rates, passage 130 is sufficient to allow venting of fluid from bottom chamber 126 to chamber 132. It should be noted that there is no discussion of fluid flow through the second fluid passage at this time since passage 130 is sufficient to allow the fluid flow.

The specification goes on, however, as the fluid flow increases, passage 130 is insufficient to handle the volumetric flow rate of fluid from bottom chamber 126 to outlet 116. Therefore, lower membrane 52b flexes to open a second fluid passage or flow path to allow sufficient fluid flow.

Thus, the specification clearly defines Figure 4 and that as long as there are low flow rates passage 130 is sufficient to allow venting of fluid. This inherently teaches that if fluid flow is sufficient through passage 130, there is no flow through the second passage (between lower membrane 52b and the land) and that lower membrane 52b must inherently prevent this fluid flow. If this fluid flow is not prevented the specification would teach two flow paths at low flow rates. Once, passage 130 is insufficient to handle the fluid flow (it becomes

saturated) lower membrane 52b flexes to open a flow path (second flow passage) to allow sufficient fluid flow.

Thus, Appellants believe that the Examiner's statement that "the second fluid passage is closed to prevent fluid flow through the second fluid passage" as being new matter is inaccurate since the specification defines that during small and low flow rates, passage 130 is sufficient to allow venting of fluid and thus, it is inherent that flow between membrane 52b and support 140 is prevented due to membrane 52b being pressed against support 140 as defined in paragraph [0032] on page 13.

Thus, Appellants believe there is support in the specification and drawings for the first and second fluid passages and that the Examiner's position with respect to new matter is not supportable. Reconsideration of the rejection is respectfully requested.

Even if, for arguments sake, we take the Examiner's position that Figure 4 shows flow through the two fluid passages when the lower membrane 52b is in the closed position or is in the seated position on the land, the Examiner still does not have support for his position of the new matter rejection. Claim 1 defines that the membrane is movable to a second position to prevent fluid flow through the second fluid passage. Claim 1 does not define that in the second position the membrane prevents all fluid flow, but clearly as shown in Figure 4, it does prevent fluid flow. The first position where the second passage is open is clearly defined in paragraph [0031] where it states "lower membrane 52b flexes to open a second fluid passage or flow path to allow sufficient fluid flow."

Thus, even taking the Examiner's position, Appellants do not believe the Examiner's position of "new matter" is supportable and that the drawings clearly show the second fluid passage. Reconsideration of the rejection is respectfully requested.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Vermolen, et al. in view of de Molina. Appellants respectfully traverse this rejection.

Claim 1 defines "the first fluid passage as an aperture extending through the membrane to allow a specified amount of fluid flow between the first chamber and the second chamber through the first passage." Thus, Claim 1 defines that the fluid flow through the first passage is through the aperture in the membrane.

The Examiner has defined the membrane as shim disc 78 and the only aperture that extends through shim disc 78 is hole 106. The Examiner's reference to an aperture 98 is inaccurate since aperture 98 extends through projection 98 and does not extend through shim disc 78 which is defined as the membrane. Also, the Examiner's reference to restriction 108 as the aperture is also inaccurate since restriction 108 is between shim disc 78 and projection 96 and not through shim disc 78, the membrane, as is defined in Claim 1. Thus, the only element identified by the Examiner which meets the limitations of Claim 1 is aperture or hole 106.

As described in Vermolen, et al. in column 5, lines 19-32, hole 106 is a tuning parameter for the shock absorber since the size of restriction 108 will be controlled by the size of hole 106, the thickness of shim disc 78 and the fluid pressure within chambers 110 and 112. While hole 106 controls the size of restriction 108, there is no fluid flow between the first and second chambers of Vermolen, et al. through hole 106, it is through restriction 108.

As described in column 5, line 62 to column 6, line 12, the fluid flow

between upper working chamber 42 and fluid reservoir 48 is through restriction 108. Referring to Figures 1 and 2 of Vermolen, et al., upper working chamber 42 is in communication with down tube 62 which is in communication with a first aperture 92, which is in communication with aperture 98, which is in communication with annular chamber 102 through restriction 108. Annular chamber 102 is in communication with reserve chamber 48 through second aperture 94 (column 4, line 65 to column 5, line 11). Thus, Vermolen, et al. discloses a single fluid passage between the two chambers (not the two defined by Claim 1) and the single fluid passage does not flow through an aperture defined by the membrane, shim disc 78 (as defined by Claim 1).

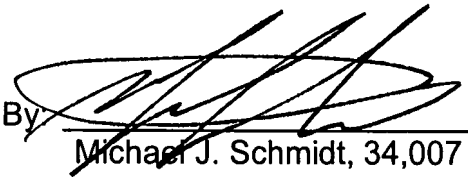
Regarding de Molina and Figure 4, it also only shows one fluid passage between the two chambers (128 to 132 to 134 to 102) and not two as is defined by Claim 1 and the fluid flow between the chambers is not through an aperture in membrane 136.

Thus, Appellants believe Claim 1 patentably distinguishes over the art of record. Likewise, Claims 2-6, which ultimately depend from Claim 1, are also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

CONCLUSION

Appellants respectfully request the rejections of the Examiner be withdrawn and the allowance of the pending claims.

Respectfully submitted,



Dated: October 2, 2007

By _____
Michael J. Schmidt, 34,007

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

MJS/pmg

APPENDIX A

PENDING CLAIMS

1. An air pressure proportional damper comprising:

a container having a first chamber and a second chamber;

a piston rod slidingly disposed in the first chamber of the container;

a piston attached to the piston rod, the piston being in sliding engagement with walls of the first chamber;

a valve disposed between the first chamber and the second chamber, the valve regulating fluid flow between the first chamber and the second chamber through a first fluid passage and a second fluid passage separate from said first fluid passage;

a membrane movable between a first position where the second fluid passage is open and a second position where the second fluid passage is closed to prevent fluid flow through the second fluid passage, the membrane defining the first fluid passage as an aperture extending through the membrane to allow a specified amount of fluid flow between the first chamber and the second chamber through the first passage when the membrane is in the second position;

a pressure signal supplied from an air spring to the valve;

wherein the valve regulates fluid flow from the first chamber to the second chamber proportional to the pressure signal.

2. The air pressure proportional damper as claimed in Claim 1, further comprising a down tube connecting the first chamber to the valve; and

an outlet connecting the second chamber to the valve, wherein fluid passing from the first chamber to the second chamber passes from the down tube to the outlet.

3. The air pressure proportional damper as claimed in Claim 2, wherein the membrane is disposed over an end area of the down tube, and

the membrane applies a resistance force over the end area of the down tube proportional to the pressure signal.

4. The air pressure proportional damper as claimed in Claim 3, wherein the membrane comprises a plurality of stacked plates.

5. The air pressure proportional damper as claimed in Claim 1, wherein the first chamber includes an upper working chamber and a lower working chamber, and wherein the second chamber is a reserve chamber.

6. The air pressure proportional damper as claimed in Claim 1, wherein the pressure signal is transmitted to the valve by a hose, the pressure signal being air pressure supplied by the air spring.

7. An air pressure proportional damper comprising:

a first chamber;

a second chamber;

an air adjustment valve, the first chamber fluidly communicating with the second chamber through the air adjustment valve, wherein the air adjustment valve comprises:

a nipple support supporting a nipple, the nipple having an aperture therethrough, communicating with the first chamber;

a lower membrane having a first side and a second side, the first side of the lower membrane contacting an upper side of the nipple and the aperture;

a plunger supported by a plunger support, a first end of the plunger contacting the second side of the lower membrane;

an upper membrane having a first side and a second side, the first side of the upper membrane contacting a second end of the plunger; and

a hose attachment housing supported by a guiding ring, a space defined by an area between the hose attachment housing, the guiding ring and the second surface of the upper membrane, a spring disposed in the guiding ring that biases the hose attachment housing toward the second side of the membrane;

wherein a second space is defined between the nipple support and the first side of the membrane, the second space communicating with the second chamber.

8. The air pressure proportional damper as claimed in Claim 7, further comprising an air hose attached to the hose attachment housing that supplies air pressure from an air spring into the space.

9. The air pressure proportional damper as claimed in Claim 8, wherein a surface of the hose attachment housing presses against the second side of the second membrane when air pressure supplied from the air spring is below a predetermined value.

10. The air pressure proportional damper as claimed in Claim 8, wherein air pressure supplied from the air spring pressurizes the space to press the upper membrane into the plunge and the plunger against the lower membrane to apply a sealing force to the nipple for restricting fluid flow from the first chamber to the second chamber.

11. An air pressure proportional damper comprising:

a first cylindrical chamber;

a second cylindrical chamber disposed around the first cylindrical chamber;

a piston rod having a valve positioned at an end of the piston rod, the valve and the piston rod being in sliding engagement with walls of the first cylindrical chamber, an area in the first cylindrical chamber proximate the rod

defining an upper working chamber, an area on a side of the valve in the cylindrical chamber distal from the rod defining a lower working chamber;

an air adjustment valve positioned at one end of the first cylindrical chamber and the second cylindrical chamber;

a down tube fluidly connecting the first cylindrical chamber to one side of the air adjustment valve, wherein the air adjustment valve regulates flow from the down tube to the second chamber;

wherein the air adjustment valve comprises:

an air adjustment valve main body;

an air adjustment valve lower main body attached to the air adjustment valve main body;

a membrane held in position between the air adjustment valve lower main body and the air adjustment valve main body;

a passage formed in the air adjustment valve main body to communicate air pressure to a top side of the membrane;

a sliding valve slidingly supported by the air adjustment valve lower main body, one end of the sliding valve positioned against a lower side of the membrane, an opposite side of the sliding valve having a valve seat that closes the down tube from passing fluid from the down tube to the second chamber;

a spring positioned between the valve seat and the sliding valve, the spring biasing the sliding valve against the membrane, the spring biasing the valve seat to a closed position.

12. The air pressure proportional damper as claimed in Claim 11, further comprising a hose fluidly connecting an air spring to the upper surface of the membrane.

13. The air pressure proportional damper as claimed in Claim 11, further comprising travel stops affixed to the air adjustment valve lower main body, the travel stops riding in a groove in the sliding valve, the groove being a longer length than the travel stops to set a fixed sliding distance of the sliding valve with respect to the air adjustment valve lower main body.

14. The air pressure proportional damper as claimed in Claim 12, wherein air pressure from the air spring presses the membrane to move the sliding valve in a direction compressing the spring, the spring force pressing the valve seat to apply resistance to flow of fluid from the down tube to the second chamber.

15. The air pressure proportional damper as claimed in Claim 11, wherein an end of the sliding valve proximate the valve seat has a groove therein, the groove allowing a minimal flow of fluid from the down tube to the second chamber.

16. The air pressure proportional damper as claimed in Claim 11, further comprising a threaded clamp having an L-shaped portion at a first end

and a threaded portion at a second end, the second end threaded to the air adjustment valve lower main body, the L-shaped first end engaging the air adjustment valve main body to clamp the air adjustment valve main body to the air adjustment valve lower main body.

17. The air pressure proportional damper as claimed in Claim 16, wherein the membrane is clamped between the air adjustment valve main body and the air adjustment valve lower main body.

APPENDIX B

Evidence: None

APPENDIX C

Related Proceedings: None